

## ABSTRACT

The degassing process is crucial in aluminum billet production to remove trapped gas bubbles within the metal that can reduce mechanical properties. The degasser machine plays a vital role in this process by injecting argon gas and stirring the molten aluminum to eliminate trapped gas bubbles. Temperature control is essential for a smooth degassing process, so a model that can predict temperature values can assist in making real-time adjustments to machine parameters to maintain optimal temperature. Modeling process aspects using machine learning is increasingly prevalent in the industry. This study employs a machine learning concept known as extreme gradient boosting, yielding the best results when all variables—rotor torque, ejector use, and air pressure—are used as input variables. The model can assist operators in making direct adjustments to air pressure, ejector use, and rotor torque to maintain an optimal temperature. The resulting model provides a mean absolute error (MAE) of 13.06°C and a mean absolute percentage error (MAPE) of 2.523%.

Kata Kunci — *temperature, machine learning, degassing, rotor, pressure*